BRESLAVSKIY, A.S.; TSVETKOVA, V.V.

Reaction of the insular apparatus of the pancreas to irradiation with X rays. Trudy Ukr.nauch.-issl.inst.eksper.endok. 18:196-201 '61. (MIRA 16:1)

1. Iz otdela gistofiziologii Ukrainskogo instituta eksperimental'noy endokrinologii i kafedry rentgenologii Khar'kovskogo meditsinskogo instituta.
(PANCREAS) (X RAYS—PHYSIOLOGICAL EFFECT)

BRESLAVSKIY, A.S., kand.med.nauk; TIKHONOVA, Ye.P., kand.med.nauk; MEDRESH, E.I., kand.med.nauk

Possibility of the development of clinical forms of exophthalmos without the participation of the thyrotropic hormone. Oft. zhur. 17 no.7:423-429 '62. (MIRA 16:3)

1. Iz otdela gistofiziologii, klinicheskogo otdela Ukrainskogo instituta eksperimental'noy endokrinologii i Ukrainskogo instituta glaznykh bolezney imeni prof. L.L. Girshmana (dir. - chlen-korrespondent AMN SSSR prof. I.I. Merkulov).
(EXOPHTHALMOS) (PITUITARY BODY)

BRESLAVSKIY, A.S. [Breslavs'kiy, O.S.]; MAKAREVICH-GAL'PERINA, L.M. [Makarevych-Hal'peryna, L.M.]; USHENKO, S.M. [Ushenko, S.M.]

Comparative evaluation of specific and nonspecific effect of natural and synthetic estrogens in the body of ovariectomized rats. Fiziol. zhur. [Ukr.] 9 no.2:209-214 Mr-Ap '63. (MIRA 18:3)

1. Ukrainskiy institut eksperimental'noy endokrinologii, Khar'kov.

BRESLAVSKIY, A.S.

Effect of potassium cation and iodine anion on the functional activity of the thyroid gland. Trudy Ukr. nauch.-issl. inst. eksper. endok. 19: 199-203 '64. (MIRA 18:7)

1. Iz otdela gistofiziologii Ukrainskogo instituta eksperimental'noy endokrinologii.

Breslavskii, D. A.

Pribory na samolete; dopushcheno v kachestve uchebnogo posobiia dlia aviatsionnykh tekhnikumov. Moskva, Oborongiz, 1947. 324 p.

Apparatus for aircraft: authorized in the quality of textbook in aviation technology.

Immediate source Library Congress assocsion list.

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ARNSLAVSKIY, G., inzh.

Oak bearings. Mast.ugl. 9 no.12:19 D '60. (MIRA 13:12)

1. Donetskiy nauchno-issledovatel'skiy ugol'nyy institut.
(Coal preparation plants--Equipment and supplies)
(Bearings (Machinery))

BRESLAVSKIY, L.M., inzh.; BRESLAVSKIY, G.M., inzh.

Reduction of the rated loading of headframes is unjustified.
Ugol' Ukr. Vol.3 no.5:41-42 My '59. (MIRA 12:9)
(Mine hoisting)

BRESLAVSKIY, L.M., kand. tekhn. nauk; BRESLAVSKIY, G.M., inzh.

Readers' response to the article by I.S. Naidenko "Determination of static reliability of brakes of drum-type mine hoisting machines. Ugol' 38 no.11:59-60 N '63. (MIRA 17:9)

BRESLAVSKIY, L. M.

PALANT, G.Ya., inzhener.; BRESLAVSKIY, L.M., inzhener.

Cleaning mine cars by vibration. Mekh.trud.rab. 10 no.12:21-22 D '56. (MLRA 10:5)

(Vibrators)
(Mine haulage)

BRESLAVSKIY, L.M., inzhener.

Causes of the rapid destruction of vibrator bearings. Vest.mash. 37 no.6:28 Je '57. (MIRA 10:7)

(Bearings (Machinery))

BRESLAVSKIY, L.M., inzh.; BRESLAVSKIY, G.M., inzh.

Reduction of the rated loading of headframes is unjustified.
Ugol' Ukr. Vol.3 no.5:41-42 My '59. (MIRA 12:9)
(Mine hoisting)

BRESLAVSKIY, L.M., inzh.

Use of wedge-shaped brake bars for the buggies developed by the Makeyevka Scientific Research Institute for Mine Safety. Izv. vys.ucheb.zav.; gor.zhur. no.6:66-69 '59. (MIRA 13:4)

1. Donetskiy industrial'nyy institut imeni N.S.Khrushcheva. Rekomendovana kafedroy gornoy mekhaniki.
(Mine haulage--Equipment and supplies)

BRESLAVSKIY, L.M., inzh.

Maximum acceptable slow down in applying brakes to man cars in inclined workings. Izv.vys.ucheb.zav.; gor.zhur. no.7: 82-86 '59. (MIRA 13:4)

1. Donetskiy industrial'nyy institut. Rekomendovana kafedroy gornoy mekhaniki.

(Mine hoisting--Brakes)

BRESLAVSKIY, L.M., inzh.

Readers' response to G.L. Rozenblit's article "Advantage of using shaft headframes for multirope hoisting". Shakht. stroi. no.12:17-18 D '59. (MIRA 13:3)

(Mine hoisting)

BRESLAVSKIY, L.M., inzh.

Admissible speed for buggies developed by the Makeyevka Scientific Research Institute and equipped with safety catches. Izv.vys.ucheb. zav.; gor.zhur. no.8:55-62 '59. (MIRA 13:5)

1. Donetskiy ordena Trudovogo Krasnogo Znameni industrial'nyy institut. Rekomendovana kafedroy gornoy mekhaniki.
(Mine haulage--Safety measures)

BRESLAVSKIY, L.M., inzh.

Special features of brakes with parachutes on railroad cars designed by the Makeyevka Research Institute for Mine Safety. Izv. vys. ucheb. zav.; gor. zhur. no. 12:56-63 '59. (MIRA 14:5)

1. Donetskiy ordena Trudovogo Krasnogo Znameni industrial'nyy institut. Rekomendovana kafedroy gornoy mekhaniki.
(Mine railroads--Safety appliances)

BRESLAVSKIY, L.M.

"Standard mine hoisting machinery" by B.V. Polevoi, V.V. Muzalevskii. Reviewed by L.M. Breslavskii. Ugol' 34 no.9:62-63 S '59. (MIRA 12:12)

(Mine hoisting) (B.V. Polevoi) (Muzalevskii, V.V.)

BRESLAVSKIY, L.M., inzh.

Readers' responst to A.K. Beketov's and N.K. Shafranov's article "Use of rope guides in vertical mine shafts." Shakht.stroi. 4 no.2:13-14 F '60. (MIRA 13:5)

1. Donetskiy industrial'nyy institut.
(Shaft sinking) (Beketov, A.K.)
(Shafranov, N.K.)

BRESLAVSKIY, L.M.

"Vibrating mine transportation machinery (foreign practice)" by A.O. Spivakovskii, I.F. Goncharevich. Reviewed by L.M. Breskavskii. Gor. zhur. no. 5:79-80 My '60. (MIRA 14:3)

1. Donetskiy industrial'nyy institut, g. Stalino.
(Mining machinery)
(Spivakovskii, A.O.)
(Goncharevich, I.F.)

BRESLAVSKIY, L.M., inzh.

"Mechanization of man transportation in mines" by V.N.Grigor'ev. Reviewed by L.M.Breslavskii. Ugol' Ukr. no.6:45 Je '60. (MIRA 13:7)

(Mine railroads--Brakes)
(Grigor'ev, V.N.)

BRESLAVSKIY, L.M., inzh.; SHATALOV, K.T., doktor tekhn.nauk

"Dynamics of transition processes in machines with many masses" by A.N.Golubentsev. Reviewed by L.M.Breslavskii, K.T.Shatalov. Vest.mash. 40 no.9:80-82 S '60. (MIRA 13:9)
(Machinery, Kinematics of)
(Golubentsev, A.N.)

BRESLAVSKIY, L. M.

Cand Tech Sci - (diss) "Permissible rate of lifting persons in trolleys of the Mak Scientific Research Inst under conditions of safe operation in the performance of parachutes." Stalino, 1961. 12 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Novocherkassk Order of Labor Red Banner Polytechnic Inst imeni S. Ordzhonikidze); 150 copies; price not given; (KL, 7-61 sup, 232)

BRESLAVSKIY, L.M., kand. tekhn. nauk; BRESLAVSKIY, G.M., inzh.

Readers' response to the article by I.S. Naidenko "Determination of static reliability of brakes of drum-type mine hoisting machines. Ugol' 38 no.11:59-60 N '63. (MIRA 17:9)

BRESLAVSKIY, L.M.

Correlation of diameters of coiling mechanisms of multi-and single-rope hoisting equipment. Gor. zhur. no.7:46-47 Jl '64. (MIRA 17:10)

BRESLAVSKIY, N.Ye. (Khar'kov).

Vibrations of cylindrical shells. Inzh.sbor. 16:109-118 '53.
(MLRA 7:3)

(Vibrations) (Elastic plates and shells)

USSR

/ 1289. Breslavskii, V. E., Vibrations of cylindrical shells (in Russian), *Inzhener. Sbornik, Akad. Nauk SSSR* 16, 109-118, 1953.

Author gives results of theoretical and experimental investigations of a cylindrical shell. In the case of axisymmetrical (pc vibrations, the solution of the equations as given by Flügge is simplified by assuming that the longitudinal displacements and Poisson's ratio equal zero. The equation is thus reduced to a form of the equation for bending of a beam on elastic foundation. Frequencies for both simply supported and built-in edges of the shell are calculated. Analogous results are also obtained using the strain-energy method. In the case of flexural vibration, author simplifies the differential equations as given by Flügge and obtains an expression for the frequency with an error of only 2-3% for simply supported shells for a small number of waves. Another method is given for shells with rigid supports. Experimental results show fairly close agreement with the frequencies predicted by the analysis. M. Maletz, USA

ACCESSION NR: AT4039427 S/2879/64/000/000/0255/0261

AUTHOR: Breslavskiy, V. Ye. (Khar'kov)

TITLE: The oscillations of liquid-filled cylindrical sheels

SOURCE: Vsesoyuznaya konferentsiya po teorii obolochek i plastin. 4th, Yerevan, 1962. Teoriya obolochek i plastin (Theory of plates and films); trudy* konferentsii, 1964 255-261

TOPIC TAGS: shell, cylindrical sheel, liquid filled shell, shell oscillation, reinforced shell, rib

ABSTRACT: The author considers the free oscillations of smooth and ribbed shells, partially or completely filled with liquid. The shells may be acted upon by normal pressure and axial forces. It is assumed that the x-axis is directed along the axis of the cylinder and coincides with the vertical. The cylinder is presumed to be filled completely with an incompressible liquid which executes a potential movement as the cylinder vibrates. The oscillations of a shell with freely suspended edges are considered, in which case the equations for the oscillations of the shell and the boundary conditions are satisfied with displacements of the type

$$u = M\cos m\varphi\cos\lambda\xi;\quad v = N\sin m\varphi\sin\lambda\xi;\quad w = K\cos m\varphi\sin\lambda\xi, \qquad (1)$$

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where u, v, w are the components of the displacement of a point of the center surface along the axis of the shell, in the direction of the tangent to the cross-sectional circumference and along the normal, respectively; M, N, K are values which depend on time and function as generalized coordinates; φ is an angle determining the position of the point on the cross-sectional circumference of the shell or the position of a particle of liquid; m is the number of waves in the shell cross section; R is the radius of the center surface of the shell. Lagrange equations are used to determine the natural frequencies of the liquid-filled shell

$$\frac{\partial}{\partial t}\left(\frac{\partial T}{\partial \dot{Q}}\right)+\frac{\partial \Pi}{\partial Q}=0, \qquad (2)$$

where T is the kinetic energy of shell and liquid; Π is the potential energy of the shell; it is time. Expressions are obtained for the kinetic energy of the shell, the total kinetic energy, the potential energy of the shell and, by substituting displacements for strain and assuming the vibrations to be harmonic, the above equation is transformed to

$$\left.\begin{aligned} &M'\left(\lambda^2 R+\frac{d}{4R}m^2-\frac{\mu R}{B}\omega^2_{liq}\right)-N'\frac{1+\nu}{2}\lambda m-K'\nu=0,\\ &-M'\frac{1+\nu}{2}\lambda m+N'\left[\frac{m^2}{R}+\frac{d}{4}\lambda^2 R-\frac{\mu R}{B}\omega^2_{liq}+\frac{\delta^2}{12}\left(\frac{m^2}{R^3}+\frac{d\lambda^2}{R}\right)\right]+\end{aligned}\right\} \qquad (3)$$

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ACCESSION NR: AT4039427

$$+K'\left[\frac{m}{R}+\frac{\delta^2}{12}\left(\frac{\lambda^2 m}{R}+\frac{m^3}{R^3}+\frac{d\lambda^2 m}{2R}\right)\right]=0.$$

$$-M'\nu\lambda+N'\left[\frac{m}{R}+\frac{\delta^2}{12}\left(\frac{\lambda^2 m}{R}+\frac{m^3}{R^3}+\frac{d\lambda^2 m}{2R}\right)\right]+$$

$$+K'\left[\frac{1}{R}+\frac{\delta^2}{12}\left(\lambda^4 R+\frac{m^4}{R^3}+\frac{2\lambda^2 m^2}{R}\right)-\frac{\mu R}{B}\omega^2-\frac{\rho_{ж} R^2 \omega_{liq}^2}{mB}\right]=0,$$

where $B=\frac{E\delta}{1-\nu^2}$; $d=2(1-\nu)$.

from which the author derives

$$\omega_{ж}^2=-\frac{\omega_0^2}{\frac{Rm}{m^2+1}\cdot\frac{\rho_{ж}}{\mu}}.$$

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where $\omega_0^2 = \frac{E}{\mu R^2} \frac{(1-\nu^2)\lambda^4 + k(\lambda^2+m^2)^4}{m^2+(\lambda^2+m^2)^2}$ is the frequency of the natural vibrations of the shell in a vacuum: $k = \frac{\delta^2}{12R^2}$ (δ is the thickness of the shell). If the shell is incompletely filled with the liquid (assuming that the form of the shell oscillations is determined by Equation 1), the kinetic energy of the liquid will be

$$T_{liq} = \frac{\rho_{liq}}{2} \int_0^{2\pi} \int_0^h \left(\Phi \frac{\partial \Phi}{\partial r}\right)_{r=R} R\, d\varphi\, dx = \frac{\pi \rho_{liq} R^2 \dot{K}^2}{4m} \int_0^h \sin^2 \frac{n\pi x}{L} dx.$$

Formulas are given for determining the frequency of the natural oscillations in the following cases: a) empty shell under the influence of normal pressure; b) shell filled with liquid to a height h and under the influence of normal pressure; c) shell having flexible ribs and under the influence of normal pressure and axial force; d) shell having

ACCESSION NR: AT4039427

transverse ribs only; e) loaded, ribbed, liquid-filled shell. In order to check out the derived formulas, an experimental determination was made of the frequencies of the natural oscillations of a cylindrical, steel, water-filled shell. The shell was set up vertically and had the following parameters: $L = 97$ cm; $R = 12.5$; $\delta = 0.12$ cm. Young's moduluas was taken as equal to $2 \cdot 10^6$ kg/cm^2 and the Poisson coefficient as $\nu = 0.3$. A table is given showing a comparison of experimentally derived and calculated results. Good agreeement is evident. Orig. art. has: 3 tables and 16 formulas

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 14May64 ENCL: 00

SUB CODE: AS NO REF SOV: 007 OTHER: 000

Card 5/5

BRESLAVSKIY-KHAR'KOV, V. Ye.

"Natural Oscillations of a Circular Cylindrical Shell When Under the Action of Hydrostatic Pressure," by V. Ye. Breslavskiy-Khar'kov, Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, No 12, Dec 56, pp 117-120

The natural oscillations of a circular cylindrical shell of finite length when under the action of hydrostatic pressure and longitudinal forces are studied on the basis of the equations of A. Lyav and W. Flugge, and the simplifications of V. Z. Vlasov. The results of the calculations were compared with experimentally determined frequencies.

The special equipment and methods used for sustaining air pressure, for the excitation of the desired oscillations, and for the measurement and the recording of the natural oscillations are described. The test results are presented.

Sum 1239

BRESLAVTSEV, D., insh.

Using industrial methods in constructing houses of few stories. Zhil.stroi. no.12:12-15 '59. (MIRA 13:4)
(Architecture, Domestic)

BRESLAVTSEV, D.

Precast reinforced concrete frame building. Na stroi. Ros. no.5:1-5 My '61. (MIRA 14:7)

1. Direktor instituta Giprostandartdom.
(Reinforced concrete construction)

KREYNDLIN, L.N.; MOROZOV, I.A.; BRESLAVTSEV, D.K., red.; KOLOMEYER, V.Z., tekhn.red.

[Making standard window blocks with double-sashes] Proizvodstvo tipovykh okonnykh blokov so sparannymi perepletami. Moskva, TSentr.biuro tekhn.informatsii Glavstandartdoma, 1959. 23 p.
(Windows) (MIRA 12:12)

LOKTIONOVA, N.A.; RASTVOROVA, N.M.; BRESLAVTSEVA, O.P.

Searching for optima heat treating conditions of Al19 alloy castings. Alium. splavy no.1:99-113 '63. (MIRA 16:11)

BRESLAVTSEVA, O.P.

24(6) PHASE I BOOK EXPLOITATION SOV/2385

Akademiya nauk SSSR

Nekotoryye problemy prochnosti tverdogo tela; sbornik statey (Some Problems in the Strength of Solids; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 386 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V. I. Aver'yanov; Tech. Ed.: R. S. Pevzner; Editorial Board: A.F. Ioffe, Academician; G. V. Kurdyumov, Academician; S. N. Zhurkov, Corresponding Member, USSR Academy of Sciences; B. P. Konstantinov, Corresponding Member, USSR Academy of Sciences; F. F. Vitman, Doctor of Physical and Mathematical Sciences, Professor (Resp. Ed.); L. A. Glikman, Doctor of Technical Sciences, Professor; N. A. Zlatin, Doctor of Physical and Mathematical Sciences; V. A. Stepanov, Doctor of Technical Sciences; Ya.B. Fridman, Doctor of Technical Sciences, Professor; B. S. Ioffe, Candidate of Technical Sciences (Deputy Resp. Ed.).

PURPOSE: This book is intended for construction engineers, technologists, physicists and other persons interested in the strength of materials.

COVERAGE: This collection of articles was compiled by the Otdeleniye fiziko-matematicheskikh nauk AN SSSR (Department of Physical and Mathematical Sciences) and the Fiziko-tekhnicheskiy institut AN SSSR (Institute of Applied Physics, Academy of Sciences, USSR) in commemoration of the 80th birthday of Nikolay Nikolayevich Davidenkov, Member of the Ukranian Academy of Sciences, founder and head of the Otdel prochnosti materialov (Department of the Strength of Materials) at the Institute of Applied Physics, Academy of Sciences, USSR, founder of the Fakul'tet fizicheskogo metallovedeniya (Department of Physical Metallurgy) at the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute), recipient of the Stalin Prize (1943), the Order of the Red Banner of Labor (1945) and the Order of Lenin (1955). The articles deal with the strength of materials, phenomena of imperfect elasticity, temper brittleness, hydrogen embrittlement, cold brittleness, influence of deformation speed on the mechanical properties of materials, fatigue of metals, and general problems of the strength, plasticity, and mechanical properties of nonmetals. Numerous personalities are mentioned in the introductory profile of Professor Davidenkov. References are given at the end of each article.

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S/129/62/000/010/004/006
E073/E335

AUTHORS: Loktionova, N.A., Candidate of Technical Sciences, Rastvorova, N.M. and Breslavtseva, O.P., Engineers

TITLE: New heat-treatment regime for AJ 19 (AL19) alloy castings

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 10, 1962, 53 - 57

TEXT: The mechanical properties were determined at 250 °C of 10-mm rods produced from 12-mm diameter specimens cast into earthen moulds. The composition of the melts was as follows: 4.5 - 5.3% Cu, 0.6-1% Mn, 0.25-0.40% Ti, ≤ 0.3% Si, ≤ 0.3% Fe. Prior to quenching the specimens were heated to 540 and 545 °C and held at that temperature for 6, 8, 10, 12, 16 and 20 hours. In addition, the influence of repeated quenching was investigated. Ageing was carried out at 150, 175, 200 and 225 °C with holding times of 3, 6, 12, 24 and 30 hours (after heating to 545 °C prior to quenching and holding at that temperature for 10-12 hours). The hardenability of massive castings was determined from tests with cubes of 100 mm side

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length, cast into earthen moulds. Quenching was in water at 45 and 50 °C and in boiling water. Conclusions: the optimum heat-treatment is single-stage heating to 545 ± 5 °C, holding at that temperature for 10 - 12 hours, quenching, artificial ageing at 175 ± 5 °C for 3-6 hours. Quenching in boiling water reduces appreciably the deformation caused by quenching, which greatly helps in eliminating changes in the geometry and obviating the necessity of straightening the parts after heat-treatment. There are 3 figures and 3 tables.

Card 2/2

LOKTIONOVA, N.A., kand.tekhn.nauk; RASTVOROVA, N.M., inzh.; BRESLAVTSEVA, O.P., inzh.

New conditions for the heat treatment of AL19 alloy castings. Metalloved. i term. obr. met. no.10:53-57 O '62. (MIRA 15:10)
(Alluminum alloys—Heat treatment)

BRESLER, A. M.

232T56

USSR/Electricity - Protective Relays Sep 52
Distance Protection

"The Induction-Type Resistance Relay," A. M. Bresler, Cand Tech Sci, Deceased, Cheboksary

"Elektrichestvo" No 9, pp 57-61

Discusses the operating principle and analyzes the induction-type resistance relay. Gives methods for designing a resistance relay with various characteristics and small errors from fast-acting mech factors. Submitted 20 Feb 52.

232T56

BRESLER, A.Ye.

Deceased

(Coal) Fuels

See ILC

ABRAMSON, I.G.; BRESLER, B.M.; VASILISHIN, I.P.; KIZNER, A.S.; MATUSHEVSKIY, T.I.; MEFODOVSKIY, V.Ya.

Gamma-control of moisture in clay slurry. TSement 31 no. 6: 17-19 N-D '65. (MIRA 18:12)

1. Gosudarstvennyy vsesoyuznyy institut po proyektirovaniyu i nauchno-issledovatel'skim rabotam tsementnoy promyshlennosti i Nikolayevskiy tsementno-gornyy kombinat.

BRESLER, B.S.

LEKAREV, L.G.; KLANTSA, P.A.; RYUKHOV, F.S.; BRESLER, B.S.; VOLOVODOVSKIY, Ye.M.; NUTEL'S, M.P.

Hospital care requirements of the rural population and methods for its determination. Sov. zdrav. 16 no.2:30-38 F '57 (MLRA 10:4)

1. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny (zav.-prof. L.G. Lekarev) Vinnitskogo meditsinskogo instituta (dir.-dotsent S.I. Korkhov)

(RURAL CONDITIONS
dispensary care requirements of rural population in Russia
methods for determ.)
(OUTPATIENT SERVICES
same)

GRUSZEN, I.

"The technology of shaping by electric arcs." p. 60
(Mechanik, Vol 25 No 2 Feb 53 Warszawa)

SO: Monthly List of East European Accessions, Vol 2 No 9 Library of Congress Sept 53 Uncl

[redacted], I.

"Principles of the construction of drilling machines for electric arc drilling." p. 8
(Mechanik, Vol 25 No 1 Jan 53 Warszawa)

SO: Monthly List of East European Accessions, Vol 2 No 9 [illegible]

BRESLER, I.

"Electric Arc Hardening of Tools According to Recent Soviet Research." p.296
(PRZEGLAD ELEKTROTECHNICZNY Vol. 29, no. 7, July 1953 Warszawa, Poland)

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954/Uncl.

BRESLER, I.

Technology of manufacturing motors of fractional power. pt. 1. Technology of manufacturing squirrel-cage rotors. p. 81, Vol. 15, no. 4, Apr. 1955, WIADOMOSCI ELECTROTECHNICZNE

SO:MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, (EEAL), LC, Vol. 4, No. 9, Sept. 1955, Uncl.

BRESLER, I.

Technology of manufacturing motors of fractional power. Pt. 2. Rotor winding, manufacturing racks, Assembling. p. 105 , Vol. 15, no. 5, May 1955, WIADOMOSCI ELECTROTECHNICZNE

SO:MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, (EEAL), LC, Vol. 4, No. 9, Sept. 1955, Uncl.

BRESLER, I.

Preserving pathological preparations. Mias. ind. SSSR 32 no.5:42 '61. (MIRA 14:11)

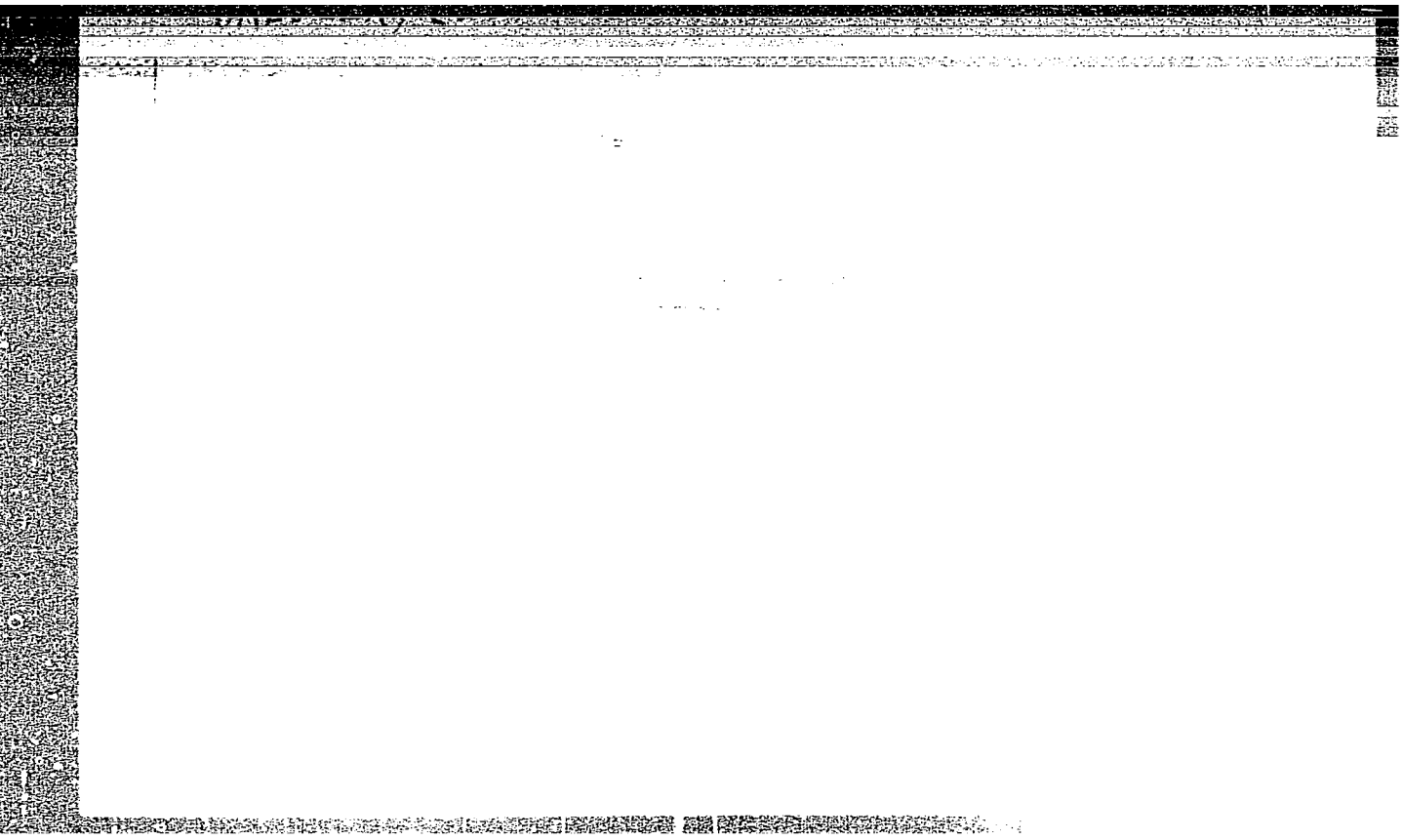
1. Kiyevskiy myasokombinat.
(TISSUES--PRESERVATION)

1. SHTEKENYUS, L. YE., BRESLER, I. D., SHVAYTSER, YE. G.
2. USSR (600)
4. Bobbins (Textile Machinery)
7. New designs for shuttle bobbins. Tekst. prom. 12, no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

BRESLER, I.I.

Micro-sensitometric study of photographic materials
Usp.nauch. fot., no. 1, 1951



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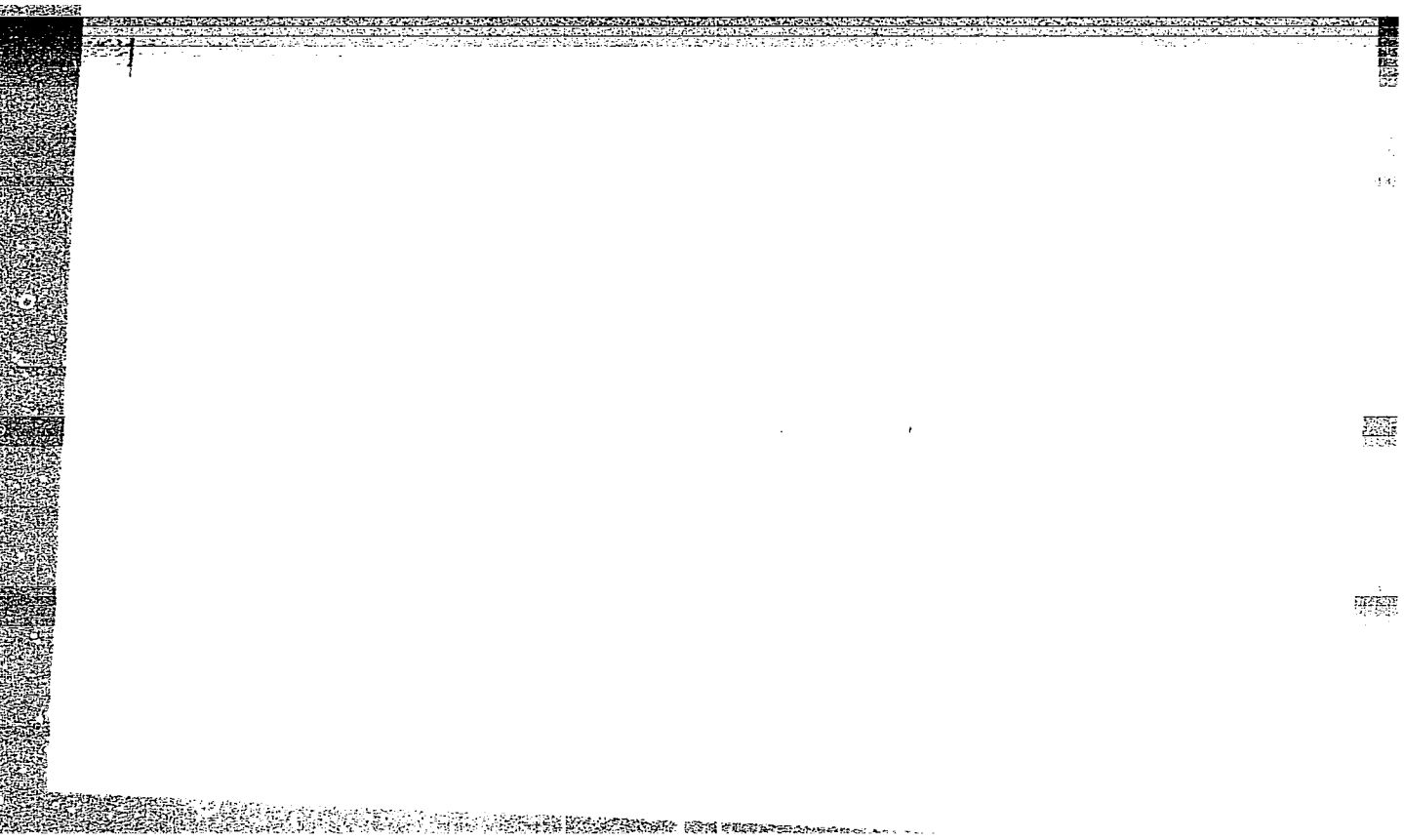

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910005-7"

BRESLER, L.S.

PAVORSKAYA, T.A.; BRESLER, L.S.

Dehydration mechanism of γ-glycols. Part 4: Synthesis of 2-trichloromethylpentanediol-2,5 and the study of its reaction with sulfuric acid. Zhur.ob.khim. 27 no.6:1507-1509 Je '57. (MLRA 10:8)

1. Leningradskiy gosudarstvennyy universitet.
(Pentanediol) (Glycols)

38106

S/020/62/144/002/018/028
B101/B144

15.9201

AUTHORS: Bresler, L. S., Dolgoplosk, B. A., Corresponding Member AS USSR, Kolechkova, M. F., and Kropacheva, Ye. N.

TITLE: Copolymerization of butadiene with isoprene under the action of complexes of butyl lithium with triethyl amine or tetrahydrofuran

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 2, 1962, 347-348

TEXT: C^{14}-tagged butadiene was copolymerized with isoprene using the anionic complex catalysts Li-n-C_4H_9 + $N(C_2H_5)_3$ (I) and Li-n-C_4H_9 + $(CH_2)_4O$ (II). The molar ratio between catalyst and monomer was 1:300, and that between complexing agent and butyl lithium was 70:1. Copolymerization was carried out at 20°C in argon. At a low degree of conversion, it was interrupted by cooling to -70°C. The catalyst was decomposed with ethanol, and the unreacted monomer was distilled off together with the solvent. The degree of polymerization was determined from the weight of the polymer dried in vacuo, and the number of butadiene

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links in the polymer was derived from the C^{14} activity. The copolymerization constants were calculated according to M. Fineman and S. D. Ross (J. Polym. Sci., 5, 259 (1950)). At yields above 10%, the initial monomer concentration was corrected according to C. G. Overberger, D. Tanner, and E. M. Pearce (J. Am. Chem. Soc., 80, 4566 (1958)). Results: With catalyst I, the copolymerization constant was $r_1 = 3.6$ for butadiene, and $r_2 = 0.11$ for isoprene; with catalyst II, $r_1 = 4.5$, and $r_2 = 0.13$. $r_1 = 2.8$ and $r_2 = 0.43$ were obtained by using the Fineman-Ross equation to convert data of G. V. Rakova and A. A. Korotkov (DAN, 119, 982 (1958)) for butyl lithium dissolved in n-hexane. Thus, the relative activity of butadiene during copolymerization with isoprene rises as a function of the solvent: hexane < triethyl amine < tetrahydrofuran.. These findings corroborate the assumption that the $C^{(-)}\text{-}Li^{(+)}$ bond is polarized to a greater extent under the action of complexing electron donors. A comparison with data for $R_3Al\text{-}TiCl_4$ ($r_1 = 1.0$; $r_2 = 1.0$) and $R_2AlCl\text{-}CoCl_2$ ($r_1 = 2.3$; $r_2 = 1.15$) proves the substantial difference in activity between Ziegler and anionic catalysts.

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Copolymerization of butadiene ... S/020/62/144/002/018/028
B101/B144

There are 1 figure and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber imeni S. V. Lebedev)

SUBMITTED: February 5, 1962

Card 3/3

S/190/63/005/003/011/024
B101/B186

AUTHORS: Bresler, L. S., Dolgoplosk, B. A., Kolechkova, M. F., Kropacheva, Ye. N.

TITLE: Copolymerization of butadiene with isoprene under the effect of the complex organometallic catalysts

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 3, 1963, 357-362

TEXT: A study was made of the copolymerization of butadiene with isoprene under the effect of the heterogeneous system (I) from triisobutylaluminum and titanium tetrachloride and of the homogeneous system (II) from diisobutylaluminum chloride and the cobalt dichloride - ethanol complex in argon atmosphere. Butadiene was tagged with C^{14} so that the composition of the copolymer could be determined from its radioactivity. With system I copolymers were obtained the composition of which with regard to the content of 1,2-, 3,4-, and 1,4-isoprene, trans-1,4 and cis-1,4-butadiene links did not differ from the homopolymers. With system II copolymers with increased content of 1,2 links were formed. The copolymerization was proved by comparison with a mechanical mixture of the two components. For the copolymers a linear dependence of the glass transition point on the

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composition was observed. T_g increased from -110°C for 100% butadiene to -71°C for 100% isoprene. Also the elasticity curves showed only one minimum for the copolymers, whereas the mixtures had two minima corresponding to the content of the respective two components. For system I the relative activity of butadiene (r_1) as well as of isoprene (r_2) is 1.0 ± 0.05. For system II r_1 = 2.3 ± 0.1 and r_2 = 1.15 ± 0.05. There are 4 figures and 3 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (Scientific Research Institute of Synthetic Rubber imeni S. V. Lebedev)

SUBMITTED: August 13, 1961

S/020/63/149/003/018/028
B192/B102

AUTHORS: ~~Brasler, L. S.,~~ Corresponding Member AS USSR, Dolgoplosk, B. A., Kropacheva, Ye. N.

TITLE: Investigation of copolymerization of butadiene with isoprene in the presence of various ion catalysers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 3, 1963, 595-598

TEXT: The copolymerization of butadiene with isoprene in the presence of catalyzers of organometallic complexes [$Al(iso\text{-}C_4H_9)_3$ + $TiCl_4$ and $Al(iso\text{-}C_4H_9)_2Cl$ + alcoholic complex of $CoCl_2$] was compared with the copolymerization in the presence of anion catalyzers [$LiC_4H_9+(CH_2)_4O$ and $LiC_4H_9+N(C_2H_5)_3$] or of cation catalyzers [$Al(C_2H_5)Cl_2+HCl$]. For copolymers formed under the effect of anion catalyzers the measurements showed an enrichment of butadiene as compared with the initial mixing proportion of the monomers. For copolymers formed with cation catalyzers they showed an enrichment of isoprene. If, however, organometallic catalyzers were used the composition of the copolymers was near the initial mixing proportion

of the monomers. The copolymerization constant of butadiene, r_1, and of isoprene, r_2, was calculated. $r_1 < r_2$ followed for the catalyzer of the cation type, $r_1 > r_2$ for that of the anion type. In case of organometallic catalyzers the polymerization process proceeds in a substantially different way. Here is $r_1 \approx r_2 \approx 1$. This means that the linkage constant for a given terminal link is equal for both monomers ($r_1 = 1 = K_{11}/K_{12}$; $r_2 = 1 = K_{22}/K_{21}$). The rate of linkage is therefore not determined by the nature of the monomer but mainly by the nature of the active terminal link of the chain. The influence of the chosen catalyzer on the microstructure of copolymers was investigated and is discussed. There are 3 figures and 2 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubbers, imeni S. V. Lebedev)

SUBMITTED: December 24, 1962

L 18900-63
RM/WW/MAY

EPR/EWP(j)/EPF(c)/EWT(m)/BDS ASD/ESD-3 Ps-4/Pc-4/Pr-4

ACCESSION NR: AP3006591

S/0020/63/151/006/1322/1325 78 80

AUTHORS: Bresler, L. S.; (Corr. member AN SSSR); Dolgoplosk, B. A.; Kropacheva, Ye. N.; Nel'son, K. V.; Nikitina, A. P.

TITLE: Study of copolymerization process of butadiene-1,3 with 2,3-dimethylbutadiene-1,3 in the presence of various catalysts of the ionic type.

SOURCE: AN SSSR. Doklady*, v.151, no. 6, 1963, 1322-1325

TOPIC TAGS: butadiene, synthetic rubber copolymerization, lithium, 2,3-dimethylbutadiene, butyllithium, HCl, C sup 14, Al, tetrahydrofuran, IR, absorption spectrum, 2,3-dimethylbutadiene, aluminum, Li

ABSTRACT: The relative activities of 2,3-dimethylbutadiene and butadiene during its copolymerization in the presence of anionic type catalysts such as butyllithium complex with tetrahydrofuran, cationic type catalysts such as aluminum ethyldichloride in the presence of hydrochloric acid, and complex organo-metallic catalysts was studied. The microstructures of the polymers obtained by the above systems

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ACCESSION NR: AP3006591

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were also studied. Butadiene tagged with carbon C^{14} was used to study the composition of copolymer. The non-radioactive polymeric microstructures were investigated by IR absorption spectra using NaCl prism. The vitrification temperature of the polymerized product mixture of butadiene and 2,3-dimethylbutadiene under the influence of catalysts decreases with an increase in its butadiene ratio. This points to the formation of true copolymers and not homopolymers. It was found that 2,3-dimethylbutadiene is more active in the cationic polymerization mechanism and butadiene is more active in the anionic type polymerization. Copolymers formed in the presence of complex catalysts are enriched in butadiene as compared to the initial monomeric mixture. The relative activity of 2,3-dimethylbutadiene is slightly lower than the activity of isoprene. Orig. art. has: 3 tables and 3 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva, (Scientific research institute for synthetic rubber)

Card 2/2

BRESLER, L.S.; DOLGOPLOSK, B.A.; KROPACHEVA, Ye.N.; NEL'SON, K.V.; NIKITINA, A.P.

Copolymerization of 1,3-butadiene with 2,3-dimethyl-1,3-butadiene in the presence of various ion-type catalysts. Dokl. AN SSSR 151 no.6:1322-1325 Ag '63. (MIRA 16:10)

1. Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V.Lebedeva. 2. Chlen-korrespondent AN SSSR (for Dolgoplosk).

BRESLER, L.S.; DOLGOPLOSK, B.A.; KROPACHEVA, Ye.N.

Polymerization of cis- and trans-piperylene under the effect of catalytic coordination systems. Dokl. AN SSSR 155 no. 5: 1101-1103 Ap '64. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V.Lebedeva. 2. Chlen-korrespondent AN SSSR (for Dolgoplosk).

L 21833-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP4049486 S/0020/64/159/002/0365/0368

AUTHOR: Bresler, L.S.; Kropacheva, Ye. N.; Poddubny*y, I.Ya.; Sokolov, V.N.

TITLE: Mechanism of polymerization of dienes under the influence of complex cobalt catalysts

SOURCE: AN SSSR. Doklady*, v. 159, no. 2, 1964, 365-368

TOPIC TAGS: diene polymerization, cobalt catalyst, butadiene polymerization, cationic polymerization, polymerization catalyst, polyisoprene, polybutadiene

ABSTRACT: This work was undertaken to clear up contradictions in the literature. Various catalyst systems were employed in the polymerization of isoprene and butadiene in benzene: LiC_4H_9; $AlCl_2C_2H_5$ with cocatalyst HCl; $TiCl_4$ with cocatalyst HCl or H_2O; TiI_4 - Al (iso-C_4H_9)$_3$, and Co naphthenate or an alcoholic complex of cobalt chloride in the presence of $AlCl$ (iso-C_4H_9)$_2$. To interrupt the polymerization, $C_2H_5OH^3$ (45 and 200 mcuries/mole) was added in amounts of 10-20 moles per mole of catalyst. It is shown that the polymer formed under the influence of an anionic catalyst is [illegible] composition with $C_2H_5OH^3$ and its radioactivity during deactivation with $CH_3C^{14}H_2OH$ is connected solely with the carbonyl groups. However, polyisoprene obtained in the presence

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ACCESSION NR: AP4049486

of cationic catalysts adds tritium as well as tagged alkoxyl. The presence of a tag in a polymer after decomposition of the catalyst by ROH^3 and its absence when treated with alkoxyl-tagged alcohol cannot yet serve as proof of the anionic mechanism of chain growth. However, when the polymer adds a tagged alkoxyl, the chain can carry only a positive charge, i.e., polymerization is cationic whether H from ROH^3 adds to the polymer or not. Such a case was observed during polymerization of dienes with Co catalysts [illegible]. In activation of Co catalysts with anhydrous $C_2H_5OH^3$, the polymer showed [illegible]. In the presence of Co naphthenate containing water, radioactive polybutadiene was obtained. Diene polymerization in the presence of Co catalyst systems thus has a cationic mechanism. It is probable that initiation proceeds by the addition of a free proton, [illegible] of anhydrous ROH^3, isotopic exchange of tritium with polymer was not [illegible]. has: 2 tables and 6 chemical equations.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 21May64 ENCL: 00 SUB CODE

NO REF SOV: 000 OTHER: 005

Card 2/2

BRESLER, L.S.

Copolymerization of hydrocarbons under the effect of ionic catalysts. Usp. khim. 34 no.5:895-919 My '65.
(MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni Lebedeva.

GENKIN, A.N.; BOGUSLAVSKAYA, B.I.; BRESLER, L.S.; NEMTSOV, M.S.

Determination of the thermodynamic functions of interaction of substances with polar solvents by gas-liquid chromatography. Dokl. AN SSSR 164 no.5:1089-1092 O '65. (MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov i Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V.Lebedeva. Submitted February 2, 1965.

BRESLER, M.S.; KOGAN, A.V.; SHALYT, S.S.; ELIASHBERG, G.M.

All-Union Conference on low temperature physics. Usp. fiz. nauk 80 no.2:331-337 Je '63. (MIRA 16:9)
(Low temperature research)

AUTHORS: Ayrapetyants, S. T., Bresler, M. S. SOV/[illegible]-28-9-11/33

TITLE: Thermoelectromotive Force and the Additional Heat Conductivity of Heterogeneous Systems (Termoelektrodvizhushchaya sila i dobavochnaya teploprovodnost' geterogennykh sistem)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol 28, Nr 9, pp. 1955-1958 (USSR)

ABSTRACT: The paper under review reports on the investigation of a polycrystalline sample which consists of anisotropic crystals. The thermoelectric properties of these crystals are determined by the principal terms of the tensor of the thermo e.m.f., of the tensor of the specific electric conductivity and of the tensor of heat conductivity. The crystals are assumed not to be under extension stress. In the computation they are replaced by equivalent spheres. In this paper the method of Odelevskiy (Ref 2) is used. A computation is made of the coefficient of the thermo e.m.f. of the polycrystal, of the increase of heat conductivity caused by the heterogeneities of the thermoelectric properties and of the coefficient of [illegible] e.m.f. of the matrix system. This is done for the case of small concentrations of the matrix phase and of small concentrations of the impurities. In ref-

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SOV/57-28-9-11/33

Thermoelectromotive Force and the Additional Heat Conductivity of Heterogeneous Systems

erence 1 the coefficient of the thermo e.m.f. of a statistical mixture was computed. In this study the coefficients of two other types of a heterogeneous system are computed: of a polycrystal and of a matrix system. A heterogeneous system is specified as matrix system if one of the phases is a unitary (uniform ?) matrix, (into which the particles of the other phase (impurity) are interspersed, which are always separated by a matrix phase). B. Ya. Moyzhes assisted in the work. There are 2 figures and 3 references, 3 of which are Soviet.

ASSOCIATION: Institut poluprovodnikov, Leningrad (Institute of Semiconductors, Leningrad)

Card 2/2

AYRAPETYANTS, S.V.; BRESLER, M.S.

Four-probe method for measuring anisotropic electic conductivity in semiconductors. Fiz.tver.tela 1 no.1:152-153 Ja '59.
(MIRA 12:4)

(Semiconductors)

L 18173-63 EPR/EWT(d)/EPF(c)/EWT(l)/EPF(n)-2/EWP(q)/EWT(m)/BDS AFFTC
ASD/SSD/IJP(C) Ps-4/Pr-4/Pu-4 JD/WW/JW/JG/DE
ACCESSION NR: AP3005216 S/0053/63/080/002/0331/0337

AUTHORS: Bresler, M. S.; Kogan, A. V.; Shalyt, S.S.; Elyashberg, G. M. 123

TITLE: All-union conference on low-temperature physics 89

SOURCE: Uspekhi fizicheskikh nauk, v. 80, no. 2, 1963, 331-337

TOPIC TAGS: Low temperature physics, conference

ABSTRACT: The 1962 annual Vsesoyuznoye soveshchaniye po fizike nizkikh temperatur (All-union conference on low-temperature physics) was held in Leningrad from 26 June through 1 July. The introductory address was made by N. Ye. Alekseyevskiy, chairman of Uchenv*y sovet problemy fiziki nizkikh temperatur (Sicence council for low-temperature problems). V. P. Peshkov discussed the basic trends of research and the various results obtained since the time of the preceding conference. B. N. Yesel'son and V. G. Ivanov extended the surface-tension measurements hitherto conducted for weak solutions of He^3 in He^3 to include large He^3 concentrations (10--50%). K. N. Zinov'yeva described investigations of the diagram of state of He^3-He^4 solutions at elevated pressures and at temperatures below 1.5°K. N. G. Bereznyak, I. V. Bogoyavlenskiy, and B. N. Yesel'son directed attention

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primarily to solidification in mixtures containing up to 76% He^3. D. A. Tsakadze reported measurements of the coefficient of mutual friction along vortex lines. Yu. G. Mamaladze presented a theoretical treatment of critical velocities for vortex formation in He II. A. F. Andreev investigated the influence of conduction electrons on certain phenomena on the boundary between a metal and liquid helium. I. P. Ipatova and G. M. Eliashberg presented a theoretical study of the paramagnetic relaxation in liquid He^3. N. V. Zavaritskii described an investigation of the tunnel effect between a tin film and monocrystalline samples of varying crystallographic orientation. Various problems in the synthesis of superconducting alleys possessing extremely high critical magnetic fields (in the hundreds of thousands of Oersteds) and their use in solenoids for generation of strong magnetic fields formed the subjects of several papers (N. E. Alekseyevskiy, et al., B. G. Lazarev, et al., V. R. Karasik, S. Sh. Akhmedov). A. M. Kolchin, N. I. Krivko, and N. M. Reynov measured the surface impedance of the alloy Nb - Zr. N. B. Brandt and N. I. Ginzburg have found a large difference in the properties of the two superconducting modifications of bismuth. B. G. Lazarev, L. S. Lazareva (Kan), and V. I. Makarov continued their previous studies of the pressure dependence of the critical temperature for tin and thallium. Measurements of the pressure dependence of the critical temperature for Nb_3Sn were reported by

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B. G. Lazarev. L. S. Lazareva (Kan), O. N. Ovcharenko, and A. A. Matsckov. The quenching of superconductivity by current and the distribution of phases in the intermediate state have been investigated by N. E. Alekseyevskiy and E. A. Troynar by the ferromagnetic powder technique. A study has also been undertaken of the kinetics of the quenching of superconductivity by current (A. P. Smirnov, A. V. Rumyantseva, and V. N. Totubalin). A theoretical paper by I. A. Privorotskiy was devoted to the absence of an isotope effect for ruthenium. A paper by M. S. Khaykin and colleagues - R. T. Mina and V. S. Ekel'man - dealt with a cyclotron resonance of tin, lead and bismuth. V. F. Gantmakher found a new dimensional effect in thin specimens of tin while making measurements of the surface impedance of the samples at frequencies of 1 - 5 Mc.

[For Complete Set See: Bresler, M. S. I
All-union conference on low-temperature physics]III

Set 1/2, Card 3/3

L 18173-63 EPR/EWT(d)/EPF(c)/EWT(l)/EPF(n)-2/EWP(q)/EWT(m)/BDS AFFTC
ASD/SSD/IJP(C) Ps-4/Pr-4/Pu-4 JD/WW/JW/JG/DE
ACCESSION NR: AP3005216 S/0053/63/080/002/0331/0337 157

AUTHORS: Bresler, M. S.; Kogan, A. V.; Shalyt, S. S.; Elyashberg, G. M. 91

TITLE: All-union conference on low-temperature physics

SOURCE: Uspekhi fizicheskikh nauk, v. 80, no. 2, 1963, 331-337

TOPIC TAGS: Low temperature physics, conference

ABSTRACT: E. P Vol'skiy measured the quantum oscillations in the quasistatic conductivity of bismuth in a magnetic field at frequencies of 3 - 5 Mc. Papers by V. P. Naberezhnykh, A. A. Galkin and V. L. Mel'nik, and by P. A. Bezugly, A. A. Galkin and A. I. Pushkin dealt with investigations of cyclotron resonance and magnetoacoustic resonance in the same samples of aluminum, which made possible the direct comparison of results and simplified the reconstruction of the topology of the Fermi surface. N. E. Alekseyevskiy reported on galvanomagnetic investigations of the transition metals (N. E. Alekseyevskiv, V. Egorov, B. N. Kazak, and G. E. Karstens) in strong magnetic

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fields (constant to 35 kOe and pulsed to 200 kOe). N. E. Alekseyevskiy also noted the applicability of galvanomagnetic measurements to the study of the Fermi surfaces of the transition metals, since the purity achieved in specimens of these metals is as yet far from that required by such methods as cyclotron resonance. N. E. Alekseyevskiy and Yu. P. Gaydukov have measured the anisotropy of the electrical resistance and of the Hall effect in cadmium, zinc and thallium; open Fermi surfaces were found for all of these metals. V. G. Volotskaya and N. Ya. Fogel' have investigated galvanomagnetic phenomena in very pure aluminum (resistivity ratio $300^{o}/4^{o}$ 2500-2000 as compared with previous values not exceeding 2000). B. N. Aleksandrov reported on a study of dimensional effects in a longitudinal magnetic field for high-purity tin, zinc, and aluminum. E. A. Kaner described a theory which he has developed for acoustic cyclotron resonance. N. B. Brandt, N. N. Stupochenko and T. F. Dolgolenko investigated the fine structure of the quantum oscillations in the magnetic susceptibility of bismuth in various crystalline directions at ultra-low temperatures. The amplifications of ultrasound in semi-metals was studied by R. F. Kazarinov and V. G. Skobov. L. A. Fal'kovskiy and A. A. Abrikosov have computed the energy spectrum the "bad" metals of the fifth group (bismuth, arsenic, antimony) by group theory methods, utilizing qualitative ideas concerning the

of cuprous oxide. Yu. N. Obraztsov developed a theory for thermomagnetic effects in semiconductors in quantized magnetic fields. A paper by I. I. Boyko, E. I. Rashba and V. I. Sheka analyzed the conditions leading to the possible observation of a new resonance effect in semiconductors, due to spin-orbit coupling. M. I. Kaganov and I. M. Lifshits computed the absorption of light in a metal whose Fermi surfaces contain degenerate points (evidently this is characteristic only of graphite). The Shubnikov-de Haas effect in $A^{III} B^{IV}$ compounds of electronic type was investigated in pulsed fields of up to 400 kOe by Kh. I. Amirkhanov, R. I. Bashirov, Yu. E. Zakiev, and A. Yu. Mollayev. O. V. Yemel'yanenko and D. N. Nasledov studied the electrical properties of gallium arsenide having a carrier concentration of $5 \times 10^{15} - 5 \times 10^{16}$ cm^{-3}, but with varying total impurity concentrations. N. E. Alekseyevskiy, Fem Zui Khien, V. G. Shapiro and V. S. Shpinel' have measured the resonance absorption probability for 28.3 keV gamma-quanta in slices of crystalline tin cut along various crystal planes. Resonance absorption of 35 keV gamma-quanta in Te^{125} formed the subject of a paper by V. V. Sklyarevskiy, B. N. Samoylov, E. P. Stepanov, I. I. Lukashevich, and R. A. Manakhov. Yu. M. Kagan delivered his paper "Toward a Theory for the Redward Thermal Displacement of the "Mossbauer Line". Papers "Assymetry of -radiation in Certain Nuclei, Polarized in an Alloy with Iron" and "Nuclear Specific Heats

structure of the bismuth type of lattice and the nature of the transition from "good" metals to dielectrics under deformation. R. G. Arkhipov derived a criterion for the occurrence of metals with small electron concentrations. M. I. Kaganov and V. G. Peschanskiy analyzed various mechanisms for the absorption of ultrasound in metals. V. P. Dobrego and S. M. Ryvkin studied conductivity in germanium alloyed with Group V or III impurities and having carrier concentrations of 10^{15} - 10^{16} cm^{-3}, in the presence of compensating impurities. S. M. Ryvkin, V. P. Dobrego, B. M. Konovalenko, and I. D. Yaroshetskiy have observed the appearance of the so-called induced impurity breakdown in germanium samples of the same degree of purity, but fully compensated. M. I. Kaganov proposed that attempts be made to observe additional exciton waves in a crystal due to the presence of space dispersion, using the deceleration of fast particles in a dielectric. L. S. Kukushkin spoke on his theory of non-radiative transition processes in molecular crystals. A paper by A. R. Kessel' and U. Kh. Kopvillem presented a calculation of the sensitivity of a quantum phonon counter which utilizes atoms in the ground state rather than in an excited state, so as to reduce the noise level. A paper was also presented by A. A. Kaplyanskiy on the influence of uniaxial deformations upon the optical spectra of crystals of the type of CaF_2, Li F, etc., containing various impurities, as well as upon the exciton spectrum

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ACCESSION NR: AP3005216

of Certain Elements Alloyed with Iron" were delivered by A. V. Kogan, V. D. Kul'kov, L. P. Nikitin, N. M. Reynov, M. F. Stel-makh, and M. Shott. "Dynamic Polarization of Protons in Lanthanum-Magnesium Double Nitrate," was reported by V. I. Lushchikov, A. A. Manenkov, and Yu. V. Taran. A large number of papers concerned with the investigation of the properties of ferro- and antiferromagnetic substances were presented at the conference. A special session was devoted to techniques for the production of low temperatures and to methods for making various low temperature measurements. A number of papers dealt with problems concerning the mechanical properties and optics of crystals at low temperatures, and concerning techniques for producing high pressures and strong pulsed magnetic fields for low temperature research. On the last day of the conference, summaries of the papers presented at the various sectional sessions were presented by their respective chairmen. As the conference chairman, N. E. Alekseyevskiy, remarked in conclusion, only the practice of combining plenary sessions with concurrent sessions of individual sections can, in the opinion of the Scientific Council for the Problems, make it possible to "boil down" to reasonable dimensions the annually increasing flood of papers on low temperature physics.

ASSOCIATION: NONE

SUBMITTED: 00 DATE ACQ: 15 Aug 63 ENCL: 00

SUB CODE: PH NO REF SOV: 000 OTHER: 000

For Complete Set See: Bresler, M. S. - All-union conference on low-temperature physics

Set 2/2, Card 5/5

L 51549-65 EWT(1)/EWT(m)/EPA(w)-2/EEC(t)/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACCESSION NR: AP5010758

AUTHOR: Bresler, M. S.; Parfen'yev, R. V.; Shalyt, S. S.

TITLE: Concerning the effect of the electron spin on the Shubnikov--deHaas oscillations in n-InSb

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1266-1268

TOPIC TAGS: Shubnikov deHaas effect, magnetoresistance, electron spin, indium antimonide, single crystal

ABSTRACT: The authors investigated experimentally the transverse and longitudinal magnetoresistance of single-crystal InSb (1.5 x 2 x 17 mm) with concentration n = 1.5 x 10^{16} cm^{-3} at T = 1.4K, in order to check against the theory of [illegible] vich and A. L. Efros (ZhETF v. 43, 561, 1962) dealing with the Shubnikov deHaas effect. The results have shown that the spin splitting of the [illegible] magnetoresistance, which is expected from the theory, can be [illegible] transverse magnetoresistance and is less pronounced although [illegible] tudinal magnetoresistance curve. The numerical values obtained for the corresponding magnetic field differ from the theoretical predictions but it is shown that in

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L 51549-65
ACCESSION NR: AP5010758

view of the uncertainty relation better accuracy cannot be expected under the experimental conditions. "We thank S. T. Pavlov, Yu. A. Firsov, and A. L. [illegible] for a discussion of the theoretical questions connected with [illegible] and I. V. Yeshovets for help with the measurements." [illegible] figure and 2 formulas.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AN SSSR)

SUBMITTED: 27Nov64 ENCL: 00 SUB CODE: SS, NP

NR REF SOV: 004 OTHER: 001

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L 52971-65 EWT(l)/EWT(m)/EWG(m)/EPR/T/EWP(t)/EWG(c)/EWP(b) Pz-6/Ps-4 IJP(c)
ACCESSION NR: AP5010526 JD/AT UR/0056/65/048/004/1212/1214

AUTHOR: Shalyt, S. S.; Parfen'yev, R. V.; Bresler, M. S.

TITLE: Quantum oscillations of the thermoelectric power in n-type InSb

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 4, 1965, 1212-1214

TOPIC TAGS: quantum oscillation, thermoelectric power, magnetoresistance, galvanomagnetic effect, spin splitting

ABSTRACT: The authors found that at helium temperatures the thermoelectric power of InSb in a transverse magnetic field exhibits the same oscillatory dependence as the transverse magnetoresistance. The study was made on a single-crystal sample of InSb (x 40 mm) with carrier density n(H → 0) = 1.32 x [illegible] cm^{-3} and mobility [illegible] x 10^4 cm^2/V-sec (at T = 4.2K). It is deduced that the [illegible] the phases of the maxima of the oscillations of both quantities [illegible] result, since the magnetoresistance oscillations are determined to a considerable degree by the periodic variations of the scattering probability, while the thermoelectric power oscillations appear in the theory even without scattering, and are

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ACCESSION NR: AP5010526

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due only to oscillations of the entropy. As in an earlier study by the authors (FTT v. 7, 1276, 1965), there is appreciable broadening of the Landau levels and it is still impossible to estimate the g-factor with acceptable accuracy [illegible] of the use of stronger fields (22--30 kOe) in which the spin [illegible] more clearly. "We are grateful to A. L. Efros and Yu. N. Obra[illegible] the theoretical problems." Orig. art. has: 2 figures and [illegible] formulas.

ASSOCIATION: Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors, Academy of Sciences SSSR)

SUBMITTED: 28Jan65 ENCL: 00 SUB CODE: SS

NR REF SOV: 006 OTHER: 001

Card 2/2

L 12050-66 EWT(1)/EWT(m)/ETC(F)/EWG(m)/T/EWP(t)/EWP(b) IJP(c) JD/GG/AT
ACC NR: AP6002655 SOURCE CODE: UR/0386/65/002/012/0538/0541

AUTHOR: Bresler, M. S.; Red'ko, N. A.; Shalyt, S. S.

ORG: Institute of Semiconductors, Academy of Sciences SSSR, Leningrad (Institut poluprovodnikov Akademii nauk SSSR)

TITLE: Quantum oscillations of the thermoelectric power in n-InAs

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 12, 1965, 538-541

TOPIC TAGS: indium compound, Hall effect, thermoelectric power, magnetoresistance, quantum oscillation, impurity scattering

ABSTRACT: This is a continuation of a study of the oscillatory field dependence of the magnetoresistance and of the Hall coefficient of n-InAs (FTT v. 4, 1233, 1962). In this paper the authors show that quantization of the electron energy spectrum of degenerate indium arsenide placed in a strong magnetic field is manifest at low temperatures in an oscillatory dependence of the thermoelectric power on the magnetic field intensity H. They also explain some additional details of the quantum oscillations of the Hall effect, which take place at the same time. So far n-InSb is the only semiconductor exhibiting quantum oscillation of the thermoelectric power. Comparison of the magnetoresistance and the thermoelectric-power curves (Fig. 1)

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ACC NR: AP6002655

made for the purpose of disclosing their phase relations shows that the maxima of both curves occur at the same field values, with a periodicity $\Delta(1/H) = 3.8 \times 10^{-5}$ oe^{-1}, which agrees well with the theoretical estimate $\Delta(1/H) = 3.7 \times 10^{-5}$ oe^{-1}. The dragging effect is manifest in the value of the thermoelectric power without the field: in the case of isotropic scattering by ionized impurities, the thermoelectric-power coefficient of the investigated sample should have been $\alpha_0 = 21$ μv/deg, as against the experimentally obtained $\alpha_0 = 56$ μv/deg. According to theory and experimental data, the action of the dragging effect should become stronger with increasing field. A large oscillation of the Hall coefficient of n-InSb was observed near the zero maximum of the transverse magnetoresistance.

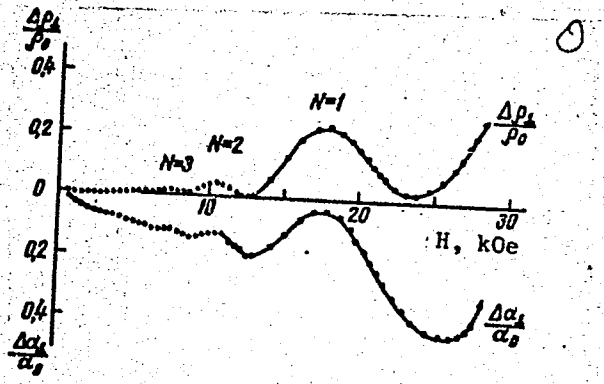

Fig. 1. Magnetoresistance ($\Delta\rho_1/\rho_0$) and magnetothermoelectric power ($\Delta\alpha_1/\alpha_0$) vs. intensity of the transverse magnetic field for polycrystalline n-InAs (2.0 x 2.8 x 50 mm) with concentration 3.4×10^{16} cm^{-3} and mobility 2×10^4 cm^2/V-sec at T ≈ 4°K.

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ACC NR: AP6002655 6

Since clarification of the nature of this oscillation is of theoretical interest, the authors investigated this coefficient for n-InAs in the region of the zero maximum of the transverse magnetoresistance and found that the Hall coefficient of n-InAs exhibits near the zero maximum of $\Delta\rho_{\perp}/\rho_0$ ($H > 30$ koe) an oscillation similar (12%) to that of n-InSb, along with two other maxima at $H \approx 15$ and 8 koe, with smaller amplitudes. Authors thank R. V. Parfen'eva and V. M. Muzhdaba for help with the research and for a discussion of the results. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 290ct65/ ORIG REF: 004/ OTH REF: 001

GC

Card 3/3

L 29623-66 EWT(l)/ETC(f)/T IJP(c) AT

ACC NR: AP6018539 SOURCE CODE: UR/0181/66/008/006/1776/1786

AUTHOR: Bresler, M. S.; Parfen'yev, R. V.; Shalyt, S. S. 65 B

ORG: Institute of Semiconductors, AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

TITLE: Quantum oscillation of the thermal emf in n-InSb

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1776-1786

TOPIC TAGS: semiconductor research, semiconductor alloy, indium compound, oscillation, thermoelectric property, magnetic effect

ABSTRACT: Quantum oscillations of the transverse and longitudinal magneto-thermal emf were experimentally investigated in n-type InSb at helium temperatures. The dependence of various kinetic coefficients on the intensity of the magnetic field was carefully studied. Spin-dependent splitting of the Landau energy spectrum was detected in samples with an electron concentration of 3.1×10^{16} cm^{-3}. The g-factor was calculated from the value obtained for the spin. It was found that spin-splitting is larger in the longitudinal field than in the transverse field, and that the effective g-factor in the longitudinal field has a value close to the expected (50). The phase shift of oscillating coefficients of the longitudinal and transverse magneto-thermal emf and the rules governing the increase of these coefficients in the region of the quantum limit were also determined. A comparison of experi-

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L 29623-66

ACC NR: AP6018539

mental data of the transverse magneto-thermal emf with the theory suggests that an important part is played by the effect of electron drag by phonons. Orig. art. has: 8 figures and 8 formulas. [ZL]

SUB CODE: 20/ SUBM DATE: 03Nov65/ ORIG REF: 013/ OTH REF: 014/ ATD PRESS: 5015

Card 2/2

L 11392-67 EWT(l)/EWT(m)/EWP(t)/ETI IJP(c) AT

ACC NR: AP7000394 SOURCE CODE: UR/0386/66/004/009/0348/0352

AUTHOR: Bresler, M. S.; Parfen'yev, R. V.; Red'ko, N. A.; Shalyt, S. S. 31

ORG: Institute of Semiconductors, Academy of Sciences SSSR, Leningrad (Institut poluprovodnikov Akademii nauk SSSR)

TITLE: Nernst effect in n-InSb in a quantizing magnetic field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 9, 1966, 348-352

TOPIC TAGS: Nernst effect, indium compound, antimonide, magnetoresistance, galvanomagnetic effect, low temperature research

ABSTRACT: This is a continuation of earlier experiments (FTT v. 8, 1776, 1966) where it was shown that quantization of the energy spectrum of the electrons of indium antimonide placed in a strong magnetic field becomes manifest at low temperatures in an oscillating field dependence of a number of kinetic coefficients. Since some of these results cannot be explained by the existing theory and call for further study, the authors have investigated the thermomagnetic Nernst effect in n-InSb. The experimental conditions (temperature, carrier density, range of magnetic fields) were such that they observed for the first time oscillations of the Nernst effect in a semiconductor, and were also able to follow continuously the sharp decrease of the Nernst coefficient in the classical region of strong fields ($uH/c \gg 1$), its transition in the region of quantum oscillations ($\xi \gtrsim \hbar \gg kT$), and the subsequent transition to the

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ACC NR: AP7000391

region of the quantum limit ($\hbar\Omega \ll \xi$) (u = mobility, ξ = chemical potential, Ω = cyclotron frequency). To determine the phase relations, the Nernst-coefficient curve was compared with the plots of the magnetoresistance and the magnetothermal emf in a transverse field and with the plot of the Hall coefficient, obtained simultaneously in the investigation of single-crystal n-InSb. The system of maxima on the plot of the Nernst coefficient A forms a periodic sequence in the reciprocal field which coincides with the periodicity of the magnetoresistance and magnetothermal-emf curves, but the oscillating Nernst-effect curve is shifted relative to the in-phase magnetoresistance and magnetothermal-emf curves in a transverse field by four periods, similar to the shift observed earlier for the magnetothermal emf in a longitudinal field. It is concluded that the results cannot be adequately interpreted theoretically until more data become available. Orig. art. has: 1 figure and 1 formula.

SUB CODE: 20/ SUBM DATE: 20Jul66/ ORIG REF: 001/ OTH REF: 001

Card 2/2 egk

L 36257-66 EWP(t)/ETI IJP(c) JD

ACC NR: AP6019276 SOURCE CODE: GE/0030/66/015/002/0745/0749

AUTHOR: Bresler, M. S.; Redko, N. A.; Shalyt, S. S. (UK) 43 B

ORG: Institute of Semiconductors, Academy of Sciences of the USSR, Leningrad

TITLE: Quantum oscillation of transport coefficients in n-type indium arsenide

SOURCE: Physica status solidi, v. 15, no. 2, 1966, 745-749

TOPIC TAGS: quantum oscillation, transport ~~coefficient~~ theory, indium arsenide, magnetoresistance, Hall coefficient

ABSTRACT: Oscillations in the magnetoresistance, Hall coefficient, and thermoelectric power in transverse and longitudinal strong magnetic fields are studied for different polycrystalline samples of n-InAs at liquid helium temperatures. Some percularities, which have also been observed in n-InSb, cannot be explained by the existing theory and need special theoretical study. The authors wish to thank R. V. Parfeniev and Yu. N. Obraztsov for stimulating discussions. Orig. art. has: 4 figures and 2 formulas. [Authors' abstract.] [KS]

SUB CODE: 20/ SUBM DATE: 18Mar66/ ORIG REF: 007/

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GEL'MAN, N.E.; BRESLER, P.I.; RUZIN, B.N.; GREK, N.V.; SHEVELEVA, N.S.; MEL'NIKOVA, A.A.

New method for the automatic microdetermination of carbon and hydrogen in organic compounds. Dokl. AN SSSR 161 no.1:107-110 Mr '65. (MIRA 18:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Spetsial'noye konstruktorskoye byuro analiticheskogo priborostroyeniya AN SSSR. Submitted July 29, 1964.

AUTHOR: Bresler, P.I. SOV/51-5-2-25/26

TITLE: On the Possibility of Producing a Gas Analyser Based on the Negative Optico-Acoustic Effect Without Using a Low-Temperature Refrigerator (O vozmozhnosti sozdaniya gazoanalizatora na osnove otritsatel'nogo optiko-akusticheskogo yavleniya bez ispol'zovaniya nizkotemperaturnogo kholodil'nika)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 2, pp 220-222 (USSR)

ABSTRACT: Recently Veyngerov et al. (Refs 1-2) described the negative optico-acoustic effect and showed how it could be used to analyse gases and vapours. This negative optico-acoustic effect can be summarized as follows. In front of a chamber filled with gas which absorbs and emits in the infrared one places a body (a refrigerator) whose temperature is lower than the temperature of the chamber. Between the chamber and the refrigerator a rotating disc is placed which permits radiation from the chamber to the refrigerator to pass only intermittently. Due to these intermittent losses of heat by radiation, pressure pulsations will occur in the chamber and they

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On the Possibility of Producing a Gas Analyser Based on the Negative Optico-Acoustic Effect Without Using a Low-Temperature Refrigerator

can be picked up by a microphone. The present paper describes apparatus which is based on the negative optico-acoustic effect but does not use a low-temperature refrigerator. The chamber containing gas is heated slightly to reach a temperature above the ambient temperature. Then any body at the ambient temperature can be used as a "refrigerator", provided it has a sufficiently high coefficient of absorption in the infrared. Measurements were made using the optico-acoustic gas analyser OA2304 which had windows of rock-salt. A condenser microphone was placed inside the measuring chamber and it was connected through a cathode follower to the input of a resonance amplifier. The output voltage developed by the amplifier was measured by a valve voltmeter. Measurements showed that the chamber filled with pure carbon dioxide even at +30°C developed sufficient voltage at the valve voltmeter for reliable readings, (ambient temperature was +20°C). Similar results were obtained for ethylene. A sheet of black paper was used as a "refrigerator". Using two-channel apparatus shown schematically in the figure on p 221 the author obtained calibration curves for carbon dioxide, methane and ethylene. These calibration curves did not differ from the curves obtained

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for the usual optico-acoustic gas analysers. The gas analyser described in the present paper has the advantage of dispensing with the special source of radiation. Its main advantage, however, lies in its high selectivity in the analysis of mixtures such as methane and ethylene, propane and propylene, normal butane and iso-butane, etc. This high selectivity is due to the wide separation of bands in the long-wavelength infrared region of the spectrum employed in this analysis. There are 1 figure and 3 Soviet references.

ASSOCIATION: Gos. soyuznoye konstruktorskoye byuro analiticheskogo priborostroyeniya (State Union Design Office for Analytic Instrument Making)

SUBMITTED: February 14, 1958

Card 3/3 1. Gas analyzers--Design 2. Gas analyzers--Equipment

82952

S/051/60/008/005/024/027
E201/E491

5.4500 (B)

AUTHORS: Bresler, P.I. and Ruzin, B.N.

TITLE: The Optico-Acoustic Effect in Mercury Vapour

PERIODICAL: Optika i spektroskopiya, 1960, Vol.8, No.5, pp.733-735

TEXT: Gerlovin (Ref.1) and the present authors (Ref.2) reported earlier the existence of the optico-acoustic effect at ultraviolet and visible wavelengths. These experiments were carried out on oxygen, nitrogen, acetylene, chlorine and nitrogen dioxide. The present authors showed (Ref.2) that the optico-acoustic effect at ultraviolet and visible wavelengths is more complex than in the infrared region because of the possible effect of photodissociation of molecules. The present paper extends these investigations to monatomic mercury vapour irradiated with light from a mercury-quartz lamp PRK-4 producing the 2537 Å wavelength. Atoms of mercury excited with ultraviolet radiation become photochemically active and this photoactivity may affect the observed optico-acoustic effect. Measurements showed that the optico-acoustic effect in mercury vapour mixed with air or argon falls rapidly from the moment when ultraviolet radiation begins and practically disappears in 4 to 5 min (cf. the lower curve in a figure on p.734). When

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The Optico-Acoustic Effect in Mercury Vapour

irradiation is stopped for a time interval necessary for mercury vapour to diffuse throughout the receiver chamber, the original magnitude of the optico-acoustic effect is restored and the process is repeated. When the chamber is filled with hydrogen the optico-acoustic effect in mercury vapour first rises in magnitude (for 6 to 8 min) then remains constant and finally starts to fall (after 20 min irradiation); this is shown in the upper curve in the figure. The reduction of the optico-acoustic effect magnitude in the case of air and argon is due to oxidation of mercury vapour by atmospheric oxygen or its traces present in argon. In the case of hydrogen the ultraviolet radiation produces a photochemical reaction with mercury which leads to dissociation of hydrogen molecules. Alternately the behaviour of hydrogen can be explained by an exothermal reaction between hydrogen and traces of oxygen in it, sensitized by mercury vapour. There are 1 figure and 2 Soviet references.

SUBMITTED: December 30, 1959

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